

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of producing, in a mammal, antibodies that neutralize severe acute respiratory syndrome (SARS) coronavirus, said method comprising administering to said mammal at least one peptide comprising amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, or 1162-1197 of SARS coronavirus spike protein, or amino acids 23-49, 176-210, 234-267, 276-301, 357-369 or 387-421 of SARS coronavirus N protein, or antigenic fragment thereof, in an amount such that said production is effected.

2. (Original) The method according to claim 1 wherein said at least one peptide comprises an amino acid sequence selected from the group consisting of those set forth in SEQ ID NO:1 to SEQ ID NO:27, and antigenic fragments thereof.

3. (Original) The method according to claim 1 wherein said at least one peptide comprises an amino acid sequence selected from the group consisting of those set forth in SEQ ID No:28 to SEQ ID No:33, and antigenic fragments thereof.

Claims 4 and 5 (Cancel).

6. (Original) The method according to claim 1 wherein said at least one peptide comprises at least two copies of amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, or 1162-1197 of SARS coronavirus spike protein, or amino acids 23-49, 176-210, 234-267, 276-301, 357-369 or 387-421 of SARS coronavirus N protein, or antigenic fragment thereof.

7. (Original) The method according to claim 1 wherein said at least one peptide comprises at least two different amino acid sequences selected from the group consisting of amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, and 1162-1197 of SARS coronavirus spike protein, and amino acids 23-49, 176-210, 234-267, 276-301, 357-369 and 387-421 of SARS coronavirus N protein, and antigenic fragments thereof.

8. (Currently Amended) A method of producing, in a mammal, antibodies that neutralize SARS coronavirus, said method comprising administering to said mammal at least one peptide comprising amino acids 33-40, 148-369, 395-406, 581-712, 779-816, 816-824 or 992-1149 of SARS coronavirus spike protein, or antigenic fragment thereof, in an amount such that said production is effected, or at least one peptide comprising HR-1 or HR-2 of SARS coronavirus spike protein, or antigenic fragment thereof, in an amount such that said production is effected.

Claim 9 (Cancel).

10. (Currently Amended) The method according to claim 1 or 8, ~~8 or 9~~ wherein said administration is effected by administering to said mammal at least one nucleic acid sequence encoding said at least one peptide under conditions such that said nucleic acid is expressed and said peptide is thereby produced.

Claims 11-14 (Cancel).

15. (Original) A method of inhibiting fusion of SARS coronavirus to cells of a mammal, said method comprising administering to said mammal at least one peptide comprising HR-1 or HR-2 of SARS coronavirus spike protein, or portion thereof that inhibits said fusion, in an amount sufficient to effect said inhibition.

16. (Original) The method according to claim 15 wherein said at least one peptide comprises the amino acid sequence set forth in SEQ ID NO:34 or SEQ ID NO:35, or portion thereof that inhibits said fusion.

17. (Original) A composition comprising at least one peptide comprising amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, or 1162-1197 of SARS

coronavirus spike protein or amino acids 23-49, 176-210, 234-267, 276-301, 357-369 or 387-421 of SARS coronavirus N protein, or antigenic fragment thereof, and a carrier.

18. (Original) The composition according to claim 17 wherein said at least one peptide comprises at least two copies of amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, or 1162-1197 of SARS coronavirus spike protein, or amino acids 23-49, 176-210, 234-267, 276-301, 357-369 or 387-421 of SARS coronavirus N protein, or antigenic fragment thereof.

19. (Original) The composition according to claim 17 wherein said at least one peptide comprises at least two different amino acid sequences selected from the group consisting of amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, and 1162-1197 of SARS coronavirus spike protein, and amino acids 23-49, 176-210, 234-267, 276-301, 357-369 and 387-421 of SARS coronavirus N protein, and antigenic fragments thereof.

Claims 20 and 21 (Cancel).

22. (Currently Amended) A composition comprising at least one peptide comprising amino acids 33-40, 148-369, 395-406, 581-712, 779-816, 816-824 or 992-1149 of SARS

coronavirus spike protein, or antigenic fragment thereof, ~~and a carrier~~ or at least one peptide comprising HR-1 or HR-2 of SARS coronavirus spike protein, or antigenic fragment thereof or portion thereof that inhibits fusion, and a carrier.

Claim 23 (Cancel).

24. (Original) An isolated nucleic acid sequence encoding amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, or 1162-1197 of SARS coronavirus spike protein, or amino acids 23-49, 176-210, 234-267, 276-301, 357-369 or 387-421 of SARS coronavirus N protein, or antigenic fragments thereof, or complement thereof.

25. (Currently Amended) An isolated nucleic acid sequence encoding amino acids 33-40, 148-369, 395-406, 581-712, 779-816, 816-824 or 992-1149 of SARS coronavirus spike protein, or antigenic fragment thereof, or complement thereof, or encoding HR-1 or HR-2 of SARS coronavirus spike protein, or antigenic fragment thereof or portion thereof that inhibits fusion, or complement thereof.

Claim 26 (Cancel).

27. (Original) An antibody, or binding fragment thereof, specific for amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-

457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, or 1162-1197 of SARS coronavirus spike protein, or amino acids 23-49, 176-210, 234-267, 276-301, 357-369 or 387-421 of SARS coronavirus N protein, or antigenic fragment thereof.

28. (Currently Amended) An antibody, or binding fragment thereof, specific for amino acids 33-40, 148-369, 395-406, 581-712, 779-816, 816-824 or 992-1149 of SARS coronavirus spike protein, or antigenic fragment thereof, or specific for HR-1 or HR-2 of SARS coronavirus spike protein, or antigenic fragment thereof.

Claim 29 (Cancel).

30. (Currently Amended) A method of detecting SARS coronavirus protein in a sample comprising contacting said sample with said antibody, or binding fragment thereof, according to claim 27, or 28, ~~or 29~~ under conditions such that said antibody can bind to said protein and detecting the presence of a complex comprising said antibody and said protein.

31. (Original) A method of detecting antibodies to SARS coronavirus protein in a sample comprising contacting said sample with at least one peptide comprising an amino acid sequence selected from the group consisting of amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, and 1162-1197 of SARS coronavirus spike protein, and amino

acids 23-49, 176-210, 234-267, 276-301, 357-369 and 387-421 of SARS coronavirus N protein, and antigenic fragments thereof, under conditions such that said peptide can bind to said antibodies and detecting the presence of a complex comprising said antibodies and said peptide.

32. (Currently Amended) A method of detecting antibodies to SARS coronavirus protein in a sample comprising contacting said sample with: i) at least one peptide comprising an amino acid sequence selected from the group consisting of amino acids 33-40, 148-369, 395-406, 581-712, 779-816, 816-824 or 992-1149 of SARS coronavirus spike protein, and antigenic fragments thereof, or ii) at least one peptide comprising HR-1 or HR-2 of SARS coronavirus spike protein, or antigenic fragment thereof, under conditions such that said peptide can bind to said antibodies and detecting the presence of a complex comprising said antibodies and said peptide ~~under conditions such that said peptide can bind to said antibodies and detecting the presence of a complex comprising said antibodies and said peptide.~~

Claim 33 (Cancel).

34. (Currently Amended) A method of detecting the presence of a SARS coronavirus encoding sequence in a sample comprising contacting said sample with the nucleic acid sequence according to claim 24, or 25 ~~or 26~~, or complement thereof, and detecting the formation of a complex between said nucleic acid sequence, or complement thereof, and said encoding sequence.

35. (Original) An isolated peptide comprising an amino acid sequence selected from the group consisting of amino acids 20-51, 83-113, 119-149, 161-188, 171-213, 198-221, 238-273, 265-287, 288-320, 386-417, 424-457, 460-490, 513-546, 539-569, 588-626, 640-674, 753-782, 792-831, 901-939, 1019-1057, 1066-1094, 1121-1153, 1162-1191, 841-882, 843-921, 1127-1161, and 1162-1197 of SARS coronavirus spike protein and amino acids 23-49, 176-210, 234-267, 276-301, 357-369 and 387-421 of SARS coronavirus N protein, and antigenic fragments thereof.

Claim 36 (Cancel).

37. (Currently Amended) An isolated peptide comprising an amino acid sequence selected from the group consisting of amino acids 33-40, 148-369, 395-406, 581-712, 779-816, 816-824 and 992-1149 of SARS coronavirus spike protein, and antigenic fragments thereof, or comprising HR-1 or HR-2 of SARS coronavirus spike protein, or antigenic fragment thereof or portion thereof that inhibits fusion.

Claim 38 (Cancel).